Commonwealth of Kentucky
Division for Air Quality

PERMIT APPLICATION SUMMARY FORM

(For all sources except PSD and true minor sources)

Completed by:
KUMAR POLE, P.E.

GENERAL INFORMATION:

Name:	Westlake PVC Corporation
Address:	Johnson Riley Road, Calvert City, Kentucky 42029
Date application received:	November 16, 1998
SIC/Source description:	2821/Polyvinyl chloride manufacturing
AFS(10-digit) Plant ID:	21-157-0004
EIS #:	072-2600-0040
Application log number:	F851
Permit number:	V-99-026

APPLICATION TYPE/PERMIT ACTIVITY:

[X] Initial issuance
[ ] Permit modification
__Administrative
__Minor
__Significant
[ ] Permit renewal
[ ] General permit
[ ]Conditional major
[X] Title V
[X] Synthetic minor
[ ] Operating
[X] Construction/operating

COMPLIANCE SUMMARY:

[ ] Source is out of compliance
[X] Compliance certification signed
[ ] Compliance schedule included

APPLICABLE REQUIREMENTS LIST:

[ ] NSR
[ ] PSD
[ ] Netted out of PSD/NSR
[ ] NSPS
[X] NESHAPS
[X] Not major modification per 401 KAR 51:017, 1(2)(b) or 51:052,1(14)(b)
[X] SIP
[ ] Other

MISCELLANEOUS:

[ ] Acid rain source
[X] Source subject to 112(r)
[ ] Source applied for federally enforceable emissions cap
[ ] Source provided terms for alternative operating scenarios
[ ] Source subject to a MACT standard
[ ] Source requested case-by-case 112(g) or (j) determination
[ ] Application proposes new control technology
[X] Certified by responsible official
[X] Diagrams or drawings included
[ ] Confidential business information (CBI) submitted in application
[ ] Pollution Prevention Measures
[ ] Area is non-attainment (list pollutants):

EMISSIONS SUMMARY:

POLLUTANT		ACTUAL EMISSIONS (tpy)	POTENTIAL EMISSIONS (tpy)
Carbon Monoxide (CO)		87.079	87.079
Nitrogen Oxides (NOx)		114.855	114.855
Sulfur Dioxide (SO_2)		1.546	1.546
PM/PM_{10}		131.775	131.775
VOC		101.800	101.800
HAPs	Cumene	1.708	1.708
	HCl	0.026	0.026
	Methanol	0.001	0.001
	Vinyl Chloride	34.874	34.874
	TOTAL HAPs =	36.609	36.609

SOURCE DESCRIPTION:

The Westlake PVC Corporation is a synthetic organic chemical manufacturing industry (SOCMI) falling under SIC Group 28. Polyvinyl chloride (PVC) is produced at this facility by polymerization of vinyl chloride monomer (VCM) in batch reactors. Following polymerization, the PVC slurry is sent to steam stripping columns to separate the PVC from unreacted VCM which is recycled back into the process. Following the stripping operation, the PVC resin is dried, screened and finally sent to one or more of 16 PVC storage silos. Several grades of PVC are produced at this facility and the finished product is shipped out of the plant by truck and rail transport. The facility is currently permitted for a maximum production rate of 750,000 tons of PVC per year.

EMISSION AND OPERATING CAPS DESCRIPTION:

This facility is currently permitted under the following two permits:

a. Permit F-94-017 (Revision 2) - Originally issued on March 3,1 1995, this permit authorized expansion of the Westlake PVC plant from 182,000 tons of PVC per year to 300,000 tons PVC per year. Several new emission units were added to the plant during this expansion. Two minor revisions were subsequently made to this permit.
b. Permit F-96-023 (Revision 1) - Originally issued on September 29, 1996, this permit authorized expansion of the Westlake PVC plant from 300,000 tons of PVC per year to 750,000 tons PVC per year. This expansion is not complete as of the date of issuance of this permit, as a result only some of the new emission units authorized by this permit have been added to the plant. One minor revision was subsequently made to this permit.

At the time of issuance of these permits, the facility was still classified as a minor source. In both cases, regulatory allowables for particulate matter, sulfur dioxide, and vinyl chloride were scaled down below the maximum allowable emission rates specified by regulation. Consequently, these permits were classified as “federally-enforceable synthetic minor permits”.

All "synthetic minor" permit requirements contained in these permits have been carried over to the Title V permit. Specifically, these are:

i. For Boilers #1, #2, and #3, a lower allowable emission rate for sulfur dioxide and particulate matter than that specified by 401 KAR 59:015, *New indirect heat exchangers*.
ii. Restriction on fuel usage rates at Boilers #1, #2, and #3.
iii. For each dryer, a lower allowable emission rate for particulate matter than that specified by 401 KAR 59:010, *New process operations.*
iv. For each PVC storage silo, a lower allowable emission rate for particulate matter than that specified by 401 KAR 59:010, *New process operations*.
v. PVC production limited to 750,000 tons per year.
vi. The vinyl chloride NESHAP (40 CFR 61 Subpart F) limits the weighted average residual vinyl chloride concentration in all grades of PVC to no more than 400 ppm (daily average), measured immediately after the stripping operation. Since vinyl chloride and VOC emissions are a function of the residual vinyl chloride concentration and the PVC production rate, the annual average residual vinyl chloride concentration in all grades of PVC is limited to 40 ppm to limit emissions of vinyl chloride and VOC.

OPERATIONAL FLEXIBILITY:

The expansion authorized by Permit F-96-023 (Revision 1) has not been completed as of the date of issuance of this permit during to prevailing economic conditions. Specifically, the three stripping columns authorized by that permit have not been installed. As a result, Westlake currently does not have adequate stripping capacity to reduce the annual average residual vinyl chloride concentration in all grades of PVC to 40 ppm or less as specified above.

In order to limit emissions of vinyl chloride and VOC to the levels set in Permit F-96-023 (Revision 1), an intermediate limit of 105 ppm has been established for the annual average residual vinyl chloride concentration in conjunction with an intermediate PVC production limit of 400,000. These two operating restrictions (VCM concentration and PVC production) together limit emissions of vinyl chloride and VOC to the same level as the 40 ppm and 750,000 tpy combination.

The permit contains the following language:

a. Prior to completion of construction of the 3 new PVC stripping columns authorized by this permit, the dry PVC production rate shall not exceed 400,000 tons during any consecutive 12-month period and the weighted average residual vinyl chloride concentration in all grades of polyvinyl chloride resins processed through the existing stripping columns, measured immediately after the stripping operation is completed and prior to entering any of the dryers, may not exceed 105 ppm as a twelve (12) month average [Permit F-96-023 (Revision 1)].
b. Upon completion of construction of the 3 new PVC stripping columns authorized by this permit, the dry PVC production rate maybe increased up to 750,000 tons during any consecutive 12-month period and the weighted average residual vinyl chloride concentration in all grades of polyvinyl chloride resins processed through the stripping operation, measured immediately after the stripping operation is completed and prior to entering any of the dryers may not exceed 40 ppm as a twelve (12) month average [Permit F-96-023 (Revision 1)].